

In color, *marginella* has decided clean cut contrasts between the black markings and the light colored ones; while in *cliens* the outlines of the markings are vaguer and more suffused.

It is strange to consider that there should be no adequate modern structural description of either species, since the first description of *marginella* by Herrich-Schaeffer in 1850 and of *cliens* by Stål in 1862!

The following brief dichotomy will help separate these two North American species of the genus *Stenomacra*.

Key to Stenomacra cliens and S. marginella

- A—Antennal segment I (basal) one and three-sevenths length of II, IV longer than II (40:35); rostrum extending to, or barely beyond, intermediate coxae; hemelytra black, orange margined; a deep, well-defined groove between anterior and posterior lobes of prothorax, posterior lobe with two nearly square *black* areas, with large, deep, black pits; anterior lobe and narrow area between black patches smooth, rounded, orange colored; head black *marginella* H. S.
- B—Antennal segment I one and three-fifths II, IV subequal to or slightly shorter than II (32:34); rostrum extending nearly or quite to posterior coxae; hemelytra testaceous, fuscous in darker specimens, margined with ivory or pale stramineous; groove between anterior and posterior lobes of the prothorax definite but not very deep, posterior lobe with two nearly square areas, darker than general color in light specimens and fuscous in dark, sparsely pitted with smaller, shallower pits; anterior lobe smooth, as well as *narrow* light-colored area between the dark areas of the posterior lobe; head fuscous *cliens* Stål

**THE PRE-COPULATORY BEHAVIOR OF THE MALE
OF DOLICHOPUS OMNIVAGUS VAN DUZEE
(DIPTERA, DOLICHOPIDAE).**

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On August 4, 1936, the author succeeded in observing the mating preliminaries of *Dolichopus omnivagus* Van Duzee. The flies were abundant on duckweed (*Lemma* sp.) on the banks of a slow-flowing creek near its junction with the Flint River in Section 5 of North Branch Twp., Lapeer Co., Michigan.

The original description of *D. omnivagus* in U. S. National Museum Bulletin No. 116, p. 216, pl. 11, fig. 156 (1921), fully describes the peculiar modifications of the wings and front legs, the uses of which are here described.

The females were busy searching the water between the duckweed fronds, while the males were engaged in attempting to mate with the females. When a female was found, the male would quickly face her at about his own length before her in the following attitude. Elevated as much as possible on his middle and hind legs, he held his wings in a vertical plane almost at right angles laterally from his body so that the peculiar lobes at the base of the wings were plainly visible from the front. He held his fore legs extended laterally and a little forward, with the tibiae and tarsi hanging downward and forward, displaying the large black pad on the terminal tarsal joint.

He then moved the front tibiae and tarsi sidewise, at the same time dropping the hypopygium a little. Then, a little more quickly, he simultaneously brought the tarsi and hypopygium back to their previous position. This movement was repeated about twice a second. The wings remained motionless.

The female in most cases was apparently unaffected by the display, but continued to examine the water and duckweed. When she turned, the male quickly hopped to a new place in front of her. In a few instances the female remained in one position long enough to allow the male to advance until the black tarsal pads almost touched her eyes. In a few other instances the female moved a little toward the male.

The male several times was seen to attempt quickly to mount the female in the usual dipterous position. This necessitated a very rapid movement in the air to bring himself on her back facing her direction. In all cases, however, the female rapidly moved away. Twice the male, after performing his display for a few seconds, apparently gave up, but soon approached the female from the rear and attempted to mount her. No cases of successful copulation were observed.

Since the pre-copulatory behavior of the males of but very few of the more than 250 North American species of *Dolichopus* is known, an interesting field here awaits the patient observer.

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